IT IS CLAIMED:

1. A method of decreasing the PGE2:PGF2α ratio and regulating the zinc:cadmium ratio in the body fluids of a human which comprises administering to the human an amount of a pharmaceutically acceptable and bioavailable cadmium salt sufficient to lower the concentration of PGE2 and to regulate the concentration of zinc in the human's body fluids.

2. The method of claim 1, wherein said cadmium salt is administered in a series of daily doses at dose levels of about 0.025 mg to about 2 mg per day.

3. The method of claim 1, wherein said cadmium salt is administered orally, parenterally, or by inhalation.

4. The method of claim 1, wherein said cadmium salt comprises the sulfate, nitrate, chloride or acetate cadmium salt.

5. The method of claim 1, wherein said administration of said cadmium salt results in a lowered concentration of zinc in said body fluids.

6. The method of claim 1, wherein said cadmium salt is administered in combination with at least one estrogen-containing composition.

7. The method of claim 6, wherein the estrogen-containing composition comprises a conjugated estrogen or a mixture of conjugated estrogens.

8. The method of claim 6, wherein the estrogen-containing composition is administered at a level of about 0.1 mg to about 0.5 mg per day.

9. The method of claim 1, wherein said cadmium salt is administered in combination with at least one protease inhibitor.

10. The method of claim 9, wherein the protease inhibitor comprises indinavir sulfate, ritonavir, invirase or nelfinavir mesylate.

11. The method of claim 9, wherein the protease inhibitor is administered at a level of about 600 mg to about 2400 mg per day.

12. A method of regulating the concentration of zinc-containing and PGE2-dependent matrix metalloproteinases in the body fluids of a human which comprises administering to said human one or more pharmaceutically acceptable and bioavailable cadmium salts in an amount sufficient to regulate the concentration of PGE2 and the concentration of zinc in the body fluids of the human.

13. The method of claim 12, wherein said cadmium salt administration decreases said concentration of PGE2.

14. The method of claim 12, wherein said cadmium salt administration decreases said concentration of zinc in said human's urine, seminal plasma or red blood cells.

15. The method of claim 12, wherein said cadmium salt is administered in a series of daily doses at dose levels of about 0.025 mg to about 2 mg per day.

16. The method of claim 12, wherein said cadmium salt is administered orally, parenterally or by inhalation.

17. A method of regulating the concentration of zinc in body fluids and tissues of a human which comprises administering to a human suffering from unregulated levels of zinc in his body fluids and tissues a bioavailable and physiologically acceptable cadmium salt in a dosage regimen sufficient to minimize deviations in said zinc levels outside of normal ranges.

18. The method of claim 17, wherein said human has an elevated systemic level of zinc and said cadmium salt administration decreases said systemic zinc concentration.

19. The method of claim 19, wherein said elevated systemic level of zinc is at least about 15% above normal.

20. A method of balancing the concentration of cadmium in body fluids and tissues of a human which comprises

administering to a human suffering from unbalanced levels of cadmium in his body fluids and tissues a bioavailable and physiologically acceptable cadmium salt in a dosage regimen sufficient to balance said cadmium concentration.

21. The method of claim 19, wherein said unbalanced levels of cadmium are at least about 15% below normal.

22. The method of claim 20, wherein said unbalanced levels of cadmium are at least about 20% below normal.

23. A method in accordance with claim 17 or 20, wherein said cadmium salt is administered in a series of daily doses at dose levels of about 0.025 mg to about 2 mg per day.

24. A method in accordance with claim 17 or 20, wherein said cadmium salt is administered orally, parenterally or by inhalation.

25. The method of claim 17 or 20, wherein said cadmium salt comprises the sulfate, nitrate, chloride or acetate cadmium salt.

26. A method of screening a person for an indication of or a risk of developing a disease associated with a cadmium deficiency which comprises measuring the level of cadmium in a sample of body fluid obtained from said person and determining whether said person is cadmium deficient.

27. The method of claim 26, wherein said person is cadmium deficient if said level of cadmium in said sample is at least about 15% below normal.

28. The method of claim 26, wherein said body fluid comprises urine or seminal plasma .

29. The method of claim 26, wherein said body fluid is urine.

30. The method of claim 26, wherein a component of said body fluid is assayed.

31. The method of claim 30, wherein said component is red blood cells.

32. The method of claim 26, which further comprises measuring the level of cadmium in a sample of a second body fluid or a body fluid component and determining whether the movement of cadmium from one of said body fluids to the other or between said body fluid and said body fluid component is below normal.

33. The method of claim 32, wherein said two body fluids are serum and urine.

34. The method of claim 32, wherein said body fluid and body fluid component are serum and red blood cells.

35. The method of claim 26, wherein said cadmium deficiency is an indicator that said person is in the initial stages of, or is at risk of developing, osteoporosis, diabetes, hypertension, Alzheimer's disease or prostate, breast or colon cancer.

36. A method of regulating the influx of extracellular calcium into cells in the body of a human which comprises administering to said human a bioavailable and physiologically acceptable cadmium salt in an amount effective to regulate the amount of calcium that passes through calcium channels into cells.

37. The method of claim 36, wherein said cadmium salt comprises the sulfate, nitrate, chloride or acetate cadmium salt.

38. The method of claim 36, wherein said cadmium salt is administered on a daily basis in the range of about 0.025 to about 2 mg. per day.

39. A method for preventing or delaying the onset of prostate, colon or breast cancer in a human at risk of developing said cancer which comprises administering to the human a pharmaceutically acceptable and bioavailable cadmium salt in an amount sufficient to prevent or delay the development, growth or division of cancer cells.

40. The method of claim 39, wherein said cadmium salt is administered in combination with an estrogen.

41. The method of claim 40, wherein said estrogen comprises a conjugated estrogen or a mixture of conjugated estrogens.

42. A method for preventing or slowing the progress of a disease in a human, wherein said disease is associated with above-normal systemic levels of zinc and said human has above normal systemic levels of zinc, which comprises administering to said human a pharmaceutically acceptable and bioavailable cadmium salt in an amount sufficient to regulate the human's systemic level of zinc.

43. A method for preventing or delaying the onset of osteoporosis in a human at risk of developing osteoporosis which comprises administering to the human a pharmaceutically acceptable and bioavailable cadmium salt in an amount sufficient to regulate the concentration of zinc in the body fluids and tissues of said human.

44. A method for preventing or delaying the onset of diabetes in a human at risk of developing diabetes which comprises administering to the human a pharmaceutically acceptable and bioavailable cadmium salt in an amount sufficient to regulate the concentration of zinc in the body fluids and tissues of said human.

45. A method for preventing or delaying the onset of hypertension in a human at risk of developing hypertension which comprises administering to the human a pharmaceutically acceptable and bioavailable cadmium salt in an amount sufficient to regulate the concentration of zinc in the body fluids and tissues of said human.

46. A method for preventing or delaying the onset of Alzheimer's disease in a human at risk of developing Alzheimer's disease which comprises administering to the human a pharmaceutically acceptable and bioavailable cadmium

salt in an amount sufficient to regulate the concentration of zinc in the body fluids and tissues of said human.

47. A method of halting or slowing the progression of a disease in a human suffering therefrom, wherein said disease is associated with above-normal systemic levels of zinc, which comprises administering to said human a pharmaceutically acceptable and bioavailable cadmium salt in an amount sufficient to regulate the human's systemic level of zinc.

48. The method of claim 47, wherein the disease is osteoporosis.

49. The method of claim 47, wherein the disease is hypertension.

50. The method of claim 47, wherein the disease is diabetes.

51. The method of claim 47, wherein the disease is Alzheimer's disease.

52. The method of claim 47, wherein the disease is prostate cancer.

53. The method of claim 47, wherein the disease is breast cancer.

54. The method of claim 47, wherein the disease is colon cancer.

55. A method for inhibiting cancerous tumor growth in a human which comprises administering to a human with a cancerous tumor a pharmaceutically acceptable and bioavailable cadmium salt at dose levels effective to sufficiently lower the ratio of PGE2:PGF2α and regulate the ratio of zinc:cadmium in the human's body fluids such that the growth, division or metastasis of cancer cells is inhibited or prevented.

56. A method for halting or slowing the progression of a disease in a human, wherein said disease is associated with above-normal ratios of PGE2:PGF2α or zinc:cadmium in body

fluids of a human suffering therefrom, which comprises administering to said human a pharmaceutically acceptable and bioavailable cadmium salt in an amount sufficient to decrease the PGE2:PGF2α ratio or regulate the zinc:cadmium ratio in the human's body fluids.

57. The method of claim 1, 12, 17, 19, or 36, wherein said cadmium salt is administered orally in a daily dose of about 0.5 mg. to about 2 mg. per day.

58. The method of claim 1, 12, 17, 19, or 36, wherein said cadmium salt is administered parenterally in a daily dose of about 0.025 mg. to about 0.1 mg. per day.

59. The method of claim 1, 12, 17, 19, or 36, wherein said cadmium salt is administered by inhalation in a daily dose of about 0.05 mg. to about 0.2 mg. per day.

60. A method for correcting a secondary zinc deficiency in the body of a human suffering therefrom which comprises administering to said human a bioavailable and physiologically acceptable cadmium salt in an amount sufficient to minimize or eliminate said zinc deficiency.

61. A method for correcting a cadmium deficiency in the body of a human suffering therefrom which comprises administering to said human a bioavailable and physiologically acceptable cadmium salt in an amount sufficient to minimize or eliminate said cadmium deficiency.

62. A pharmaceutical composition comprising a combination of one or more cadmium salts and a pharmaceutically acceptable carrier, said composition in oral, parenteral or inhalation dosage form.

63. A pharmaceutical composition comprising a combination of

a) one or more cadmium salts;

b) an estrogenic compound, a protease inhibitor, or a combination thereof; and

c) a pharmaceutically acceptable carrier.